JIM Reading List

In this issue, our Literature Review section takes on a different flavor. We've scanned the clinical literature for citations of papers and studies that may have direct relevance to the practice of Insurance Medicine including mortality, disability, health care issues, and risk associated with specific diseases. By no means is this list intended to be exhaustive or complete; it is intended to hit some highlights and perhaps provide useful background when a question crosses your desk. Contributions to the Reading List by all are invited. Please forward your citation and summary to Dr. Michael Moore, Associate Editor, Literature Review at moorem1@nationwide.com. We will acknowledge all contributors within each issue.


This is a literature review with 10 citations to articles on this topic, which the authors have summarized. The subject areas cover etiology, diagnosis, treatment, future research, and the prediction of prognosis and survival.


The odds ratio can be used to identify a population with an exposure or a risk factor that is associated with an increased (or decreased) relative risk of a disease or condition. It can be used to distinguish between high- and low-risk groups, for instance. However, the odds ratio does not provide any information on the accuracy of classification using the marker, even if the odds ratio suggests the strength of the association is high. One must consider the accuracy of the marker with information on sensitivity, specificity, and receiver-operator (roc) analysis. This article reviews some basic and important biostatistical principles, while reminding us of the limitations of decisions based on an odds ratio alone.


This is a clinical guideline summary of the US Preventive Services Task Force (USPSTF) position on routine screening for coronary heart disease using resting electrocardiography (ECG), exercise electrocardiography (ETT), or electron beam computed tomography (EBCT). The task force concluded that the risks exceed the potential benefits of using these tests to detect coronary heart disease (CHD) in asymptomatic adults at low risk. The task force found insufficient evidence to recommend for or against use of these tests to supplement coronary risk factor assessment in adults at increased risk of CHD events. Limited test sensitivity, low population prevalence (pre-test probability), and risk from invasive testing required to evaluate positive results are issues that are highlighted. The statement includes a link to a Web site with a comprehensive evidence review.

A subset of the large Reykjavik, Iceland, prospective study of coronary heart disease was used to assess C-reactive protein and other inflammatory markers and coronary event risk, as well as within-person fluctuations of these markers over a 12-year interval. The investigators found that the long-term stability of C-reactive protein levels was similar to that seen with blood pressure and cholesterol measurements (correlation coefficient 0.59; 95% CI 0.52 to 0.66). The investigators also found that C-reactive protein levels when comparing the upper third to the lowest third of the distribution of values was associated with an odds ratio for coronary heart disease of 1.45 (95% CI 1.25 to 1.68). They concluded that C-reactive protein is a moderate predictor of coronary heart disease at a lower level of relative risk than reported by others.


Update and reanalysis of data from the Women’s Health Study, an ongoing trial of aspirin and vitamin E for primary prevention of heart disease in over 28,000 American women age 45 and over at enrollment. Cox proportional hazards analysis was used to derive crude and adjusted (by Framingham Risk Score) risk ratios for coronary events according to decile ranges and clinically set cut points for measured baseline high sensitivity C-reactive protein (hsCRP) for the cohort. The authors suggest that very low (<0.5 mg/L) and very high (>10 mg/L) levels of hsCRP retain predictive value for coronary events, that is somewhat attenuated when adjusted for Framingham Risk Score.


This paper describes a prospective trial to assess survival of community dwelling individuals from the time of diagnosis of Alzheimer disease. It used a large managed care organization’s database to develop a registry of patients with this diagnosis. Out of a base population of 23,000 age 60 and above, 521 persons were newly diagnosed from 1987 to 1996. The association of survival and a number of variables including, mental status and dementia scores, behavioral disturbances, various neurologic signs and symptoms were investigated. Kaplan-Meier survival curves are presented for several of these variables. The investigators found that the median survival time from diagnosis was 4.2 years for men, and 5.7 years for women, noting that survival was decreased in all age groups compared with the life expectancy of the US population. They did not calculate standardized mortality ratios (SMR). The subject and the level of detail provided in this paper present an excellent basis for an Insurance Medicine mortality abstract.


It is fairly well accepted that a secondary condition that develops in patients with Alzheimer’s disease is deconditioning, loss of muscle mass, undernutrition, increased falls and loss of mobility. A study was conducted among 153 community dwelling patients who had Alzheimer’s disease to see whether regular exercise could reduce these characteristics. The group was divided into standard routine care and those patients who received 60 minutes of exercise per week. At the end of 3 months, the exercise group had fewer days of restricted activity, improved physical functioning scores and less depression. Incorporating exercise into the routine care of Alzheimer’s patients appears to have many beneficial aspects.

8. Mottram PM, Haluska B, Yuda S, Leano R, Marwick T. Patients with a hypertensive response
to exercise have impaired systolic function without diastolic dysfunction or left ventricular hypertrophy. J Am Coll Cardiol. 2004;43:848–853.

A hypertensive response during exercise (HRE, maximum BP ≥210/105 mm Hg in men, ≥190/105 mm Hg in women) is associated with an increased incidence of chronic hypertension. Whether HRE is associated with end-organ damage or other cardiovascular complications is uncertain. Of 400 consecutive patients referred for exercise ECG for mainly chest pain syndromes, 41 had HRE. Of these, 22 had a history of treated hypertension, 19 did not have a hypertension history. HRE patients had similar exercise capacity, cardiac dimensions, and diastolic function, compared to controls with normotensive exercise responses. However, those with HRE did demonstrate a mild decrease in LV long-axis systolic function as measured by strain rate imaging (an imaging technique using Doppler data that is being evaluated in the study) including those without a prior hypertension history. Those without prior hypertension history had high normal (mean 136/86 mm Hg) blood pressure. Since end-organ effects are demonstrable in a “pre-hypertensive” state, this result lends additional support to lowering BP targets for the diagnosis and control of hypertension. Whether there may be some association between these early cardiac changes with strain rate imaging and mortality would require further study of the technique and larger patient cohorts.


Recent articles (N Engl J Med, 2003;2191) have proposed to show that virtual colonoscopy via CT imaging is just as sensitive as the time proven method of standard endoscopic colonoscopy. In this British study of 600 patients, virtual colonoscopy was immediately followed by endoscopic colonoscopy to determine if sensitivity was similar in finding colonic lesions. Overall, the CT was not able to find as many small lesions (ie, those greater than 6 mm) as colonoscopy 98% vs 32%, and even larger lesions >10 mm were still poorly discovered by CT 96% vs 52%. Even more concerning was that out of the 8 cancers detected by colonoscopy, 2 were missed by CT. Overall, while this offers increased patient convenience, CT colonography is still inferior to traditional endoscopic colonoscopy in detecting colonic lesions.


Syncope is a frequent cause of visits to the emergency department. Who should be admitted? Who can safely go home? To help answer those questions researchers identified through “recursive partitioning” 5 variables that predicted potential serious outcomes. Those 5 were abnormal EKG, shortness of breath, systolic BP <90, hematocrit <30, and history of congestive heart failure. The association of 1 of these 5 with a syncopal episode suggests that hospitalization is prudent and further investigation is needed.